

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering the present application and indicating that claims 7 and 11 contain allowable subject matter.

I. Disposition of Claims

Claims 1-29 are pending in the present application. Claims 1, 7, 9, 11, 14, and 22 have been amended.

II. Claim Amendments

Independent claims 1, 9, 14, and 22 have been amended to incorporate the limitations that (1) the well fluid is a non-oleaginous liquid and (2) the miscible amine and synthetic polymer of the well fluid are mixed in an absence of a cross-linkant. No new matter has been added by way of these amendments.

Dependent claims 7 and 11 have been written in independent to include the limitations of original claims 1 and 9, respectively. Because the Examiner has indicated that claims 7 and 11 do contain allowable subject matter and would be allowable if rewritten in independent form including the limitations of the base and any intervening claims, amended claims 7 and 11 are now allowable. No new matter has been added by way of these amendments.

III. Rejection(s) under 35 U.S.C § 112

Claims 14-29 were rejected under 35 U.S.C. § 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, the use of the term “effective” was objected to as rendering the scope of the claims unclear. However, as defined in the present application, ““effective” simply means an amount sufficient to raise the temperature stability of the synthetic polymer [well fluid] system by a measurable amount.” Specification, paragraph [0017]. Thus, with respect to the present application, one of ordinary skill in the art will understand what is meant by an “effective amount” of miscible amine. Accordingly, claims 14-29 are not indefinite, and withdrawal of the § 112 rejection is respectfully requested.

IV. Rejection(s) under 35 U.S.C § 102

U.S. Patent No 4,780,221

Claims 1-6, 8-10, 12-15, 17-23, and 25-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,780,221 issued to Holtmyer et al. (hereinafter “Holtmyer”). For the reasons set forth below, this rejection is respectfully traversed.

The claimed invention relates to a technique for increasing the thermal stability of a synthetic polymer well fluid system by mixing an effective amount of a miscible amine in the well fluid. The addition of miscible amines into a synthetic polymer system increases the thermal resistivity of the well fluid and enhances the overall stability of the system. Amended independent claims 1, 9, 14, and 22 require that a well fluid comprise a synthetic polymer and at least an effective amount of a miscible amine (ad)mixed with the synthetic polymer in an absence of a cross-linkant. Moreover, claims 1, 9, 14, and 22 have been amended to recite that the well fluid is a non-oleaginous liquid.

Holtmyer is directed to techniques for viscosifying liquid hydrocarbons (e.g., diesel and kerosene), whereas, as mentioned above, the present invention is directed to techniques for improving well fluid thermal stability. Holtmyer teaches about a synthetic tertiary-amine containing copolymer that viscosifies a hydrocarbon liquid and the cross-linking of the copolymer with a monocarboxylic acid in the presence of an ethanolamine.

Holtmyer, Abstract. With respect to the cross-linking of the copolymer with the monocarboxylic acid, Holtmyer discloses that “[t]he monocarboxylic acid is present in an amount at least sufficient to neutralize the copolymer *through ion pair formations.*”

Holtmyer, column 3, lines 20 – 22 (emphasis added). Holtmyer fails to disclose, or otherwise teach, the admixing of a synthetic polymer and a miscible amine *in an absence of a cross-linkant* as required by amended independent claims 1, 9, 14, and 22 of the present application. Accordingly, Holtmyer fails to teach, either implicitly or explicitly, each and every limitation of amended claims 1, 9, 14, and 22 of the present application.

Moreover, Holtmyer is directed to an oleaginous solution, not a non-oleaginous solution as required by amended independent claims 1, 9, 14, and 22 of the present application. This is evident from Holtmyer as Holtmyer is primarily directed to “viscosifying liquid hydrocarbons such as diesel, kerosene, and the like.” Holtmyer, column 1, lines 10 – 13. Furthermore, each example disclosed in Holtmyer is directed to an oleaginous solution. Holtmyer, column 4, lines 38 – 47 (Example I); column 5, lines 19 – 23, Table II (Example II); column 6, Table III (Example III); column 6, lines 24 – 28, Table IV (Example IV); column 6, lines 59 – 62 and column 7, Table V (Example V). Thus, Holtmyer is clearly not directed to a non-oil-based liquid as required by amended claims 1, 9, 14, and 22 of the present application. Those skilled in the art will understand

that the use of non-oleaginous liquids is advantageous because non-oleaginous liquids can be more environmentally friendly than oleaginous fluids. Accordingly, Holtmyer fails to teach, either inherently or explicitly, each and every limitation of amended claims 1, 9, 14, and 22 of the present application.

In view of the above, Holtmyer fails to show or suggest the present invention as recited in amended independent claims 1, 9, 14, and 22 of the present application. Thus, amended claims 1, 9, 14, and 22 are patentable over Holtmyer. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

U.S. Patent No. 6,291,406

Claims 1-6, 9-12, 14, 15, 18-23, and 26-29 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,291,406 issued to Rose et al. (hereinafter “Rose”). For the reasons set forth below, this rejection is respectfully traversed.

Rose, in contrast to the present invention, is directed to an oleaginous well treatment fluid (e.g., “water-in-oil emulsions”) for treating subterranean formations, including the recovery of hydrocarbons from subterranean formations. Rose, column 1, lines 10 – 15; column 3, lines 25 – 30. Rose specifically discloses that “[p]REFERRED hydrocarbons include diesel oil, kerosene, and [] synthetic oils, with diesel oil being most preferred.” Rose, column 6, lines 39 – 40. Thus, Rose is clearly not directed to a non-oil-based liquid as required by amended claims 1, 9, 14, and 22 of the present application. Accordingly, Rose fails to teach, either inherently or explicitly, each and every limitation of amended claims 1, 9, 14, and 22 of the present application.

In view of the above, Rose fails to show or suggest the present invention as recited in amended independent claims 1, 9, 14, and 22 of the present application. Thus, amended claims 1, 9, 14, and 22 are patentable over Rose. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

U.S. Patent No. 5,909,779

Claims 1, 2, 14, 15, 22, and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,909,779 issued to Patel et al. (hereinafter “Patel”). For the reasons set forth below, this rejection is respectfully traversed.

Patel, in contrast to the present invention, is directed to well fluids for use in drilling subterranean wells. Patel, column 1, lines 11 –13. These well fluids are oil-based as reflected by the title of Patel: “Oil-Based Drilling Fluids Suitable for Drilling in the Presence of Acidic Gases.” Thus, Patel is summarily directed to oleaginous well fluids. Patel, column 2, lines 42 – 50 (“the oleaginous fluid is the major component by volume of [the] drilling fluid”). Therefore, Patel is clearly not directed to a non-oil-based liquid as required by amended claims 1, 9, 14, and 22 of the present application. Accordingly, Patel fails to teach, either inherently or explicitly, each and every limitation of amended claims 1, 9, 14, and 22 of the present application.

In view of the above, Patel fails to show or suggest the present invention as recited in amended independent claims 1, 14, and 22 of the present application. Thus, amended claims 1, 14, and 22 are patentable over Patel. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully

requested.

V. Conclusion

Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 05542.009002).

Respectfully submitted,

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